DPM 2567 OBSOLETE

SAFETY HEALTH AND ENVIRONMENTAL AFFAIRS
OCT 11 1993
ORIGINAL

METCO PERKIN ELMER

Material Safety Data Sheet

METCO PERKIN-ELMER

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Product: METCO 43C, 43C-NS, 43F-NS, 43VF-NS

MSDS No.: METCO / 50-112
Revision No.: 3
Revision Date: February 25, 1993
Original Date of Issue: September 7, 1987

EMERGENCY CONTACT: CHEMTREC 800-424-9300
CALLS OUTSIDE THE UNITED STATES: 202-483-7616

SECTION 1 MATERIAL IDENTIFICATION

Trade/Material Name: METCO 43C, 43C-NS, 43F-NS, 43VF-NS

Description: Metal Powder

Other Designation: NICKEL CHROMIUM ALLOY POWDER

SECTION II COMPOSITION AND TOXICITY

Composition	%	CAS#	OSHA PEL	ACGIH TLV	Toxicity
Manganese *	5	7439-96-5	5 mg/m³ CEIL compounds 1 mg/m³ TWA fume 3 mg/m³ STEL fume, as Mn	5 mg/m³ TWA compounds 1 mg/m³ TWA fume 3 mg/m³ STEL fume, as Mn	
Silicon	3	7440-21-3	10 mg/m³ TWA total dust 5 mg/m³ TWA respirable	10 mg/m³ TWA **	
Iron	2	7439-89-6	10 mg/m³ TWA total particulate Fe_2O_3 fume, as Fe	5 mg/m³ TWA Fe_2O_3 fume, as Fe	
Nickel *	75	7440-02-0	1 mg/m³ TWA	1 mg/m³ TWA	
Chromium *	22	7440-47-3	1 mg/m³ TWA	0.5 mg/m³ TWA	

* Indicates toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments & Reauthorization Act (SARA) & supplier notification requirements (40CFR Part 372).

** Contains no asbestos and <1% crystalline silica.

SECTION III — PHYSICAL DATA

Boiling Point:	N/A	**Specific Gravity (H_2O = 1):**	3.0
Vapor Pressure (mmHg):	N/A	**Melting Point:**	2000 - 2500° F
Vapor Density (Air=1):	N/A	**Percentage Volatiles:**	N/A
Solubility in water (%):	Negative	**Evaporation Rate:**	N/A
Appearance and Odor:	Powder, no odor	**pH of Solution:**	N/A

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): NONE

Flammable Limits: **LEL %:** N/A **UEL%:** N/A

Extinguishing Media: Use Class D Fire Extinguisher.

Special Fire Fighting Procedures: Treat as a metallic fire.

Unusual Fire and Explosive Hazards: Fine metal dusts are flammable and may explode when exposed to heat, flame or oxidizers. Silicon may ignite if exposed to flame or oxidizers, do not heat or expose to water. Iron and chromium may ignite if airborne in the presence of an ignition source.

SECTION V — REACTIVITY DATA

Material is stable. Hazardous polymerization will not occur.

Incompatibility (Materials to Avoid): Oxidizers, Acids, Sulfur, $Ni(NO_3)_2$, Combustibles.

Hazardous Decomposition Products: Ozone and nitric acid are formed by the plasma flame (similar to welding fumes). This action is independent of metal powder.

SECTION VI — HEALTH HAZARD DATA

COMPONENTS	SUMMARY OF RISKS
MANGANESE:	Hazard by inhalation. Chronic inhalation may cause manganism characterized by psychosis and neurological impairment. Target Organ(s): Central Nervous System.
SILICON:	No known toxicity associated with inhalation of this form. Under normal use/conditions silicon dioxide is formed. Inhalation of silicon dioxide may cause pneumoconiosis: silicosis. Silicosis is a pulmonary fibrosis characterized by generalized fibrotic changes on X-ray examination, shortness of breath, cough, decreased chest expansion, lessened capacity for work and increased susceptibility to tuberculosis. Target Organ(s): Lungs.

SECTION VI — HEALTH HAZARD DATA — CONTINUED

IRON: Hazard by inhalation. May cause Siderosis (benign pneumoconiosis).

Target Organ(s): Lungs.

NICKEL: Hazard by inhalation and skin contact. Inhalation may cause cancers of the lung and nasal sinuses. Skin contact may cause dermatitis. Nickel is found to be a potential carcinogen in IARC Monographs. Nickel is listed in the NTP Annual Report on Carcinogens.

Target Organ(s): Respiratory tract, skin.

CHROMIUM: Hazard by inhalation and skin contact. Inhalation may cause pneumoconiosis and mucous membrane irritation or ulceration. Skin contact may cause dermatitis, sensitization or chrome lesions. A portion of metallic chromium may be converted during the thermal spray process to hexavalent chromium. Exposure to hexavalent chromium may cause bronchogenic, lung and stomach cancers.

Target Organ(s): Lungs, skin.

Medical Conditions Which May be Aggravated by Contact: Consult a physician.

Primary Entry Route(s): Inhalation, ingestion, skin contact.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Eye Contact: Irritation.

Skin Contact: Possible dermatitis.

Inhalation: Irritation, pneumoconiosis.

Ingestion: Possible irritation.

FIRST AID

Eye Contact: Flush eye with sufficient amounts of water. If irritation persists, consult a physician.

Skin Contact: Wash with soap and water.

Inhalation: Expose to fresh air. Consult a physician if irritation or respiratory distress persists.

Ingestion: Consult a physician.

SECTION VII — SPILL, LEAK AND DISPOSAL PROCEDURES

Spill/Leak Procedures: Vacuum loose powder only with vacuums equipped with HEPA filtration. Vacuums appropriate for use with metallic dusts should be utilized. Wipe the area clean. Do not use water for clean up operations. Do not sweep. Avoid generating airborne dust.

Waste Management and Disposal: Empty product containers, product waste, and cleaning media should be stored and disposed of according to the appropriate local, state, and federal regulatory guidelines.

SECTION VIII SPECIAL PROTECTION INFORMATION

PERSONAL PROTECTIVE EQUIPMENT

Goggles: The following lens shades are recommended for the process indicated. Combustion spraying shade #5, plasma spraying up to 40 kW shade #9, 40-60 kW shade #10, and greater than 60 kW shade #11. Goggles may be appropriate to avoid eye irritation during other phases of product handling.

Gloves: Aluminized gloves are to be worn during the plasma spray process. Rubber or other appropriate gloves may be worn as necessary during other phases of product handling to avoid excessive skin contact.

Respirator: A respirator approved by NIOSH with filter cartridges approved for dust/fumes/mists should be worn at all times during the thermal spray process to protect the operator from exposure to dust and fumes. Respirators may also be worn when product handling generates dust.

Clothing/Equipment: Ear protection must be worn when the operator is subjected to excessive noise levels (refer to the appropriate regulatory guidelines. An aluminized apron is to be worn during the plasma spray process. Other appropriate protective clothing may be worn as necessary during product handling to avoid excessive contact with the skin.

WORKPLACE CONSIDERATIONS

Ventilation: Product should be used with the appropriate local exhaust ventilation provided.

Safety Stations: Eye wash station(s) is/are recommended.

Other: Wash facilities are recommended.

SECTION IX HANDLING AND STORAGE PRECAUTIONS

Storage/Handling: Store away from incompatibles. Store product containers in a well-ventilated, clean, cool, and dry area. Store in a manner to minimize punctures and breakage of containers.

Other Precautions: Avoid ingestion, inhalation, and excessive skin contact. Avoid contact of powder with water and oxidizers.